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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,890	10/29/2003	Kazuo Nishimoto	244747US0X	4117

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EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT PAPER NUMBER

1755

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,890

Applicant(s)

NISHIMOTO ET AL

Examiner

Michael A Marcheschi

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/17/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-14 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-5, 11-14 and 20-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-10, 16 and 19 is/are rejected.
- 7) ☒ Claim(s) 7-10 and 16-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/15/04, 6/21/04
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Art Unit: 1755

Applicant's election with traverse of Group II, claims 7-10 and 16-19 in the reply filed on 11/17/04 is acknowledged. The traversal is on the ground(s) that the examiner has not provided any reasons to support the position taken. This is not found persuasive because the examiner has stated that the inventions are distinct for 2 separate reasons and merely stating that "no reasons to support the examiners position has been defined" is not a persuasive argument. Applicants have **not** shown that the examiners position taken in the restriction requirement are not applicable, as define therein. To overcome a restriction requirement, applicant must submit some kind of convincing evidence. Applicants have failed to do this. Applicants also traverse the restriction on the grounds that numerous patents require more than 2 subclasses to search and thus a serious burden is not met. The examiner is well aware that 2 or more subclasses exist for patents, however, a serious burden **is** apparent because (1) the class/subclass for the group II claims **do** **not** have to be searched for group I claims because the composition defines the intended uses which gives no weight to the composition. Finally, the restriction is proper for the **three reasons defined in the restriction requirement, none of which have been addressed by applicants.**

The requirement is still deemed proper and is therefore made FINAL.

The abstract of the disclosure is objected to because it is not limited to a single paragraph.

Correction is required. See MPEP § 608.01(b).

Claims 7-10 and 16-19 are objected to because of the following informalities:

Claims 7-10 and 16-19 are objected to because they depend on non-elected claims.

Appropriate correction is required.

Art Unit: 1755

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 10 are rejected under 35 U.S.C. 102(e) as anticipated by Yao et al.

The reference teaches in the abstract, sections [0088]-[0089], [0148], [0164]-[0166] and [0196], a CMP process which comprises the step of polishing a polysilicon film with a polishing composition that comprises an abrasive (less than 1.5%), a quaternary ammonium salt, an inorganic acid salt and water.

The claimed invention is anticipated by the reference because the reference teaches a method which comprises all of the claimed limitations. Since priority has not been perfected, this reference is applicable.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as obvious over Yao et al.

Art Unit: 1755

The reference, in addition to the above teachings, sets forth in section [0196] that the substrate to be polished is one that contains a polysilicon layer and a metal oxide or nitride layer.

In view of this, this makes the limitations of the above claims obvious for the following reasons:

(1) "metal layer" as defined by the reference encompasses and therefore makes obvious a silicon oxide layer because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".**

(2) with this being obvious, although the reference is silent with respect to the functional language (removal rates), these limitations are obvious because the composition and use thereof are the same (use for polishing a substrate that contains the same layers). Since the composition and use thereof are the same, the same results are expected because the same composition, when used in the same manner, is expected to provide the same results absent evidence to the contrary.

Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as obvious over EP 896,042 in view of Lin et al.

The EP reference teaches in sections [0022]-[0034 and [0043], a CMP process which comprises the step of polishing a film (any film where CMP process are useful) with a polishing composition that comprises an abrasive, a quaternary ammonium salt, fluoride salts (i.e. this is an inorganic acid salt) and water.

Art Unit: 1755

Lin et al. teach in the abstract that polysilicon layers (films) are known to be polished by a CMP process.

The primary reference literally states that the films to be polished is any film where CMP process are useful. This makes polysilicon films obvious because the films fall within the criteria of the primary reference as shown by the secondary reference.

Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as obvious over WO 01/78116 alone or in view of Her et al.

The WO reference teaches in the abstract, page 3, lines 15-25, page 5, lines 20-24 and page 7, lines 37-page 8, line 2, a CMP process which comprises the step of polishing prime silicon or a dielectric film with a polishing composition that comprises an abrasive, a quaternary ammonium salt, a fluoride salt (i.e. this is an inorganic acid salt) and water.

Her et al. teach in claim 3 that polysilicon layers (films) are known dielectric layers (films).

The primary reference literally states that prime silicon can be polished and this makes obvious amorphous silicon because "**A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)**". In the alternative, the primary reference states that dielectric films can be polished. This makes polysilicon films obvious because the films fall within the criteria of the primary reference as shown by the secondary reference (i.e. they are dielectric materials (films)).

Art Unit: 1755

Claims 16 and 19 are rejected under 35 U.S.C. 103(a) as obvious over WO 01/78116 in view of Tsuchiya et al. alone or further in view of Her et al.

The WO reference teaches in the abstract, page 3, lines 15-25-page 5, lines 20-24, page 7, lines 37-page 8, line 2 and page 9, lines 10-15, a CMP process which comprises the step of polishing prime silicon or a dielectric film with a polishing composition that comprises an abrasive, a quaternary ammonium salt, an amine, a fluoride salt (i.e. this is an inorganic acid salt) and water. A rheological agent (thickener) can also be added.

Tsuchiya et al. teach in claim 10 that water soluble polymers are known thickeners in polishing slurries.

With respect to the composition, the primary reference teaches all of the claimed components except a literal teaching of a water soluble polymer. This component, however, is obvious because the primary reference states that a rheological agent (i.e. this is a thickener) can be added and water soluble polymers are well known thickeners for polishing slurries, as shown by Tsuchiya et al. In view of this, the use of a water soluble polymer is obvious and well within the scope of the skilled artisan in view of the teachings of "rheological agents" defined by the primary reference. With respect to the polishing method, the primary reference literally states that prime silicon can be polished and this makes obvious amorphous silicon because "A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)". In the alternative, the primary reference states that dielectric films can be polished. This makes polysilicon films

Art Unit: 1755

obvious because the films fall within the criteria of the primary reference as shown by the Her et al. (i.e. they are dielectric materials (films)).

The limitations of claims 17 and 18 are not rejected over any art and therefore objected to because they are dependent on a rejected base claim.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

The additional references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

Art Unit: 1755

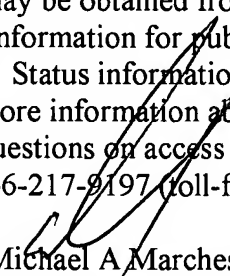
Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

2/05
MM


Michael A Marcheschi
Primary Examiner
Art Unit 1755